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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,585	07/29/2003	C. Steven Sikes	38833-8002.US00	1626

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EXAMINER

SACKEY, EBENEZER O

ART UNIT	PAPER NUMBER
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1626

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/630,585	SIKES, C. STEVEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	EBENEZER SACKKEY	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### **Status of Claims**

Claims 1-19 are pending.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The current claim language is confusing because it is not clear if the hydrohalide is the catalyst or another catalyst is present in addition to the hydrohalide.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chou (U.S. Patent number 5,856,427). Chou discloses the preparation of polysuccinimide.

See column 1, lines 1-7, column 2, lines 1-2.

### **Claim Rejections - 35 U.S.C. § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adler et al., (U.S. Patent number 5,457,176) and Chou (U.S. Patent number 5,856,427) in view of Kato et al., JP-11240947.

Applicant claims a method of preparing polysuccinimide polymer, comprising:

(a) forming a solution of aspartic acid and a water-soluble polymerization catalyst in an aqueous medium containing a volatile protic acid selected from hydrochloric acid, hydrobromic acid and hydroiodic acid;

(b) drying the solution to give a solid residue; and

(c) heating the residue at a temperature and for an amount of time sufficient to produce a polysuccinimide polymer.

**Determination of the scope and content of the prior art (MPEP §2141.01)**

Adler et al., teach the preparation of polysuccinimide polymer which comprises thermally condensing or forming a reaction mixture of one or more amino acids and optionally one or more polyfunctional monomers in the presence of an acid catalyst, heating the reaction mixture, removing water from the reaction mixture and recovering polymer. See the entire reference, especially, column 2, lines 7-67 and columns 3 and 4.

Chou also teaches the production of polysuccinimide by catalyzed thermal polymerization of L-aspartic acid in the presence of an organic medium. See the entire reference, column 2, lines 28-56 and especially column 5, lines 12-15 where it is disclosed that acid catalyst is known to increase the rate of polycondensation of L-aspartic acid include hydrochloric acid.

**Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)**

The instant process differs from Adler et al., and Chou in that a water soluble polymerization catalyst (hydrohalide) is contained in the aqueous medium of aspartic acid and water, whereas Adler and Chou teaches that one or more "processing aids" may be added to the process to make the starting reaction mixture more flowable. Suitable processing aids include chlorides and bromides. See column 6, lines 6-14 of Adler and column 5, lines 13-15 of Chou.

In addition, Kato et al., teach that during the preparation of polysuccinimides the use of hydrochloric acid increases the molecular weight of the product.

Therefore, one in possession of Adler or Chou is in possession of the instant process. Hence, there is no evidence of record to distinguish the instant process from either Adler et al., or Chou et al.

**Finding of prima facie obviousness---rational and motivation (MPEP §2142-2143)**

Thus, at the time of filing this application, one of ordinary skill in the art in possession of Adler et al., and/or Chou would have found the instant claims obvious in view of the disclosure that during the preparation of polysuccinimide, the use of hydrohalide increases the rate of condensation of aspartic acid to form polysuccinimide. The requisite motivation being the desire to prepare polysuccinimide polymer. The instantly claimed process would therefore have been suggested to one of ordinary skill in the art absent a showing of unobvious or unexpected results and/or properties.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. Sackey whose telephone number is (571) 272-0704.

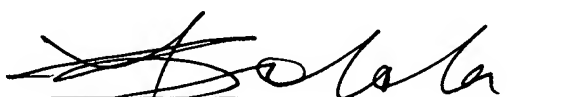
The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane, can be reached on (571) 272-0699. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

EOS  
July 19, 2005

A handwritten signature in black ink, appearing to read 'T. Solola', written over a horizontal line.

Dr. T. Solola  
Primary Patent Examiner  
Art Unit 1626, Group 1600  
Technology Center 1